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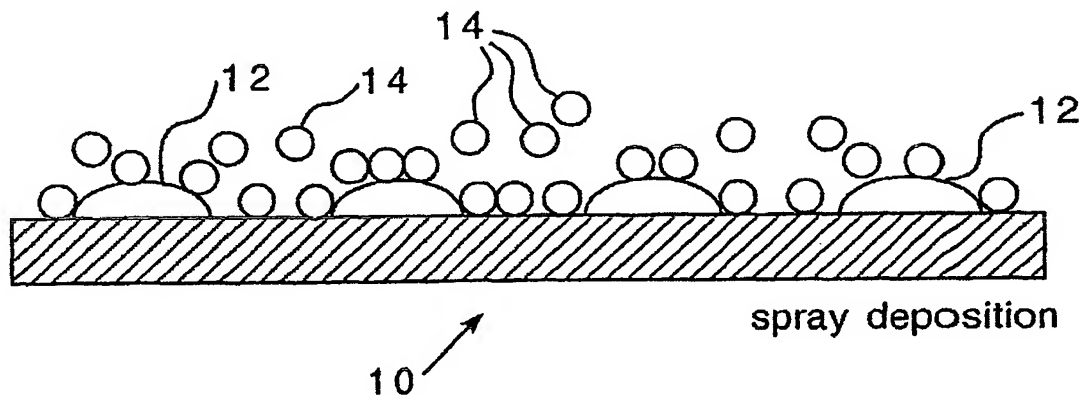
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(54) Title: METHOD AND DEVICES FOR RUNNING REACTIONS ON A TARGET PLATE FOR MALDI MASS SPECTROMETRY



(57) Abstract: A peptide or protein microassay method and apparatus in which a wide variety of chromogenic or fluorogenic peptide or protein substrates of interest are individually suspended or dissolved in a hydrophilic carrier, with aliquots of each substrate being deposited in an array or microarray of reaction loci, or "dots." Each dot, therefore, provides an individual reaction vessel containing the peptide or protein of interest, to which a biological sample may be applied for assay purposes. The sample is applied to the array or microarray of dots by one of a variety of focused sample application techniques, including aerosolizing or misting of the sample, or target application of the sample, onto each dot without creating fluid channels between the dots which would cause cross-contamination. In additional aspects, the present invention provides methods of transferring samples from an electrophoretic gel to a target plate for subsequent MALDI MS analysis. Chemical reactions of interest can be run directly on the target plate, and the reaction products on the target are then prepared for MALDI MS analysis by drying and aerosol deposition of matrix material, without the need for salt removal and additional processing steps.



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